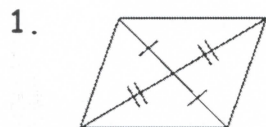


Geometry Unit 8 Worksheet #4

For #1 - 12, can you prove that the quadrilateral is a parallelogram? Explain why or why not?



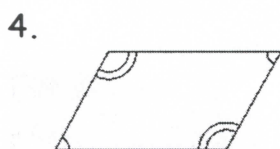
YES
DIAGONALS
BISECT EACH
OTHER



NO - NEED
BOTH SETS OF
LS



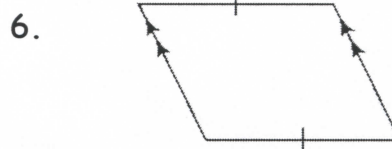
YES
BOTH PAIRS OPPOSITE
SIDES \parallel



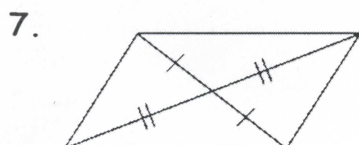
YES
OPPOSITE LS \cong



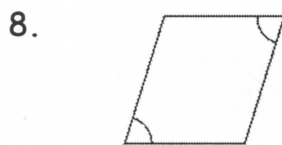
YES - 1 SET
OPPOSITE SIDES
 \parallel AND \cong



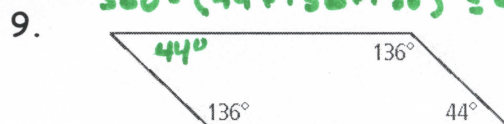
NO
SAME SIDE MUST
BE \parallel AND \cong



YES - DIAGONALS
BISECT EACH
OTHER



NO
NEED BOTH
SETS OF LS \cong



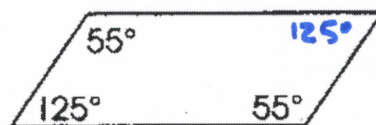
$$360 - (44 + 136 + 136) = 44$$

YES - BOTH
SETS OF OPPOSITE
LS ARE \cong

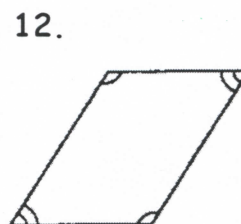


YES - DEFN. OF
 \square , BOTH SETS
OF OPPOSITE SIDES
ARE \parallel

11. $360 - (55 + 55 + 125) = 125$



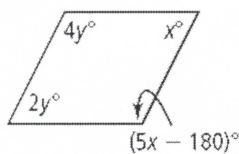
YES - BOTH SETS
OF OPPOSITE
LS \cong



YES - BOTH
SETS OF OPPOSITE
LS \cong

For #13 - 20, for what values of x and y must each quadrilateral be a parallelogram?

13.



$$6y = 180^\circ$$

$$y = 30^\circ$$

$$2y = x$$

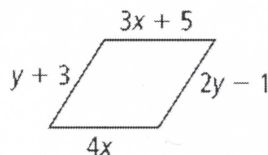
$$2(30) = x$$

$$60 = x$$

$$y = 30^\circ$$

$$x = 60^\circ$$

14.



$$\begin{array}{r} 3x + 5 = 4x \\ -3x \quad -3x \\ \hline 5 = x \end{array}$$

$$x = 5$$

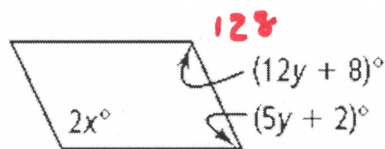
$$y = 4$$

$$y + 3 = 2y - 1$$

$$3 = y - 1$$

$$4 = y$$

15.



$$(12y + 8) + (5y + 2) = 180$$

$$17y + 10 = 180$$

$$17y = 170$$

$$y = 10$$

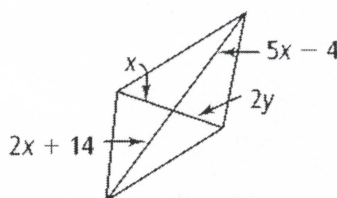
$$x = 64$$

$$y = 10$$

$$2x = 128$$

$$x = 64$$

16.



$$5x - 4 = 2x + 14$$

$$3x - 4 = 14$$

$$3x = 18$$

$$x = 6$$

$$x = 6$$

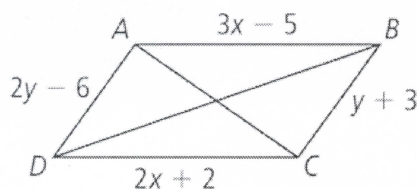
$$y = 3$$

$$2y = x$$

$$2y = 6$$

$$y = 3$$

17.



$$3x - 5 = 2x + 2$$

$$x - 5 = 2$$

$$x = 7$$

$$x = 7$$

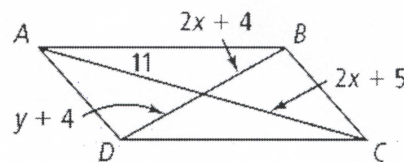
$$y = 9$$

$$2y - 6 = y + 3$$

$$y - 6 = 3$$

$$y = 9$$

18.



$$2x + 5 = 11$$

$$2x = 6$$

$$x = 3$$

$$x = 3$$

$$y = 6$$

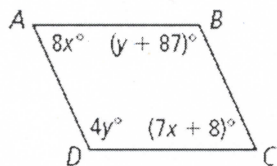
$$2x + 4 = y + 4$$

$$2(3) + 4 = y + 4$$

$$10 = y + 4$$

$$6 = y$$

19.



$$8x = 7x + 8$$

$$x = 8^\circ$$

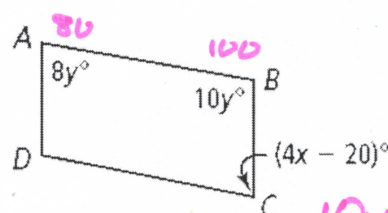
$$x = 8^\circ$$

$$y = 29^\circ$$

$$4y = y + 87$$

$$3y = 87$$

20.



$$x = 25^\circ$$

$$y = 10^\circ$$

$$10y + 8y = 180$$

$$18y = 180$$

$$y = 10$$

$$4x - 20 = 80$$

$$4x = 100$$

$$x = 25$$